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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/036,506	01/07/2002	Keigo Obata	50395-126	6027

7590 03/25/2004

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EXAMINER

XU, LING X

ART UNIT PAPER NUMBER

1775

DATE MAILED: 03/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/036,506

Applicant(s)

OBATA ET AL.

Examiner

Ling X. Xu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's amendments filed on 1/29/2004 have been entered. In light of applicants' amendments, all previous rejections based on 35 USC 112(2) and 102(b) are now withdrawn.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Odanaka et al (JP-58-81985).

With respect to the independent claim 17, Odanaka discloses a plating bath comprises 0.1-1.3 g/l of cobalt salt ("the second metal ion") and tetravalent titanium (abstract). Since the present of the tetravalent titanium in the plating solution stabilizes the plating solution against reduction and deposition of the second metal ions, see pages 22-24 of the specification of the present application, the plating solution of Odanaka comprising the same tetravalent titanium ions can also has the same function of stabilizing the plating solution as claimed.

With respect to claim 15, Odanaka discloses the second metal ion is the cobalt ion (abstract).

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With respect to claim 16, Odanaka discloses the amount of cobalt ion is 0.1-1.3 g/l in the solution. The ratio of Ti/Co ions in the solution is 0.01-0.4 (abstract). Accordingly, the concentration of tetravalent titanium ions is 0.001-0.52 g/l ($0.01 \times 0.1 = 0.001$ and $0.4 \times 1.3 = 0.52$), which is about 2.1×10^{-5} - 0.011 mol/liter (molecular weight of titanium is 47.9g/mol, $0.001/47.9 = 2.1 \times 10^{-5}$ mol/liter, $0.52/47.9 = 0.011$ mol/liter). The concentration range of tetravalent titanium ions overlaps the claimed range of at least 0.001 mole/liter.

Odanaka meets all the limitations of claims 15-17.

3. Claims 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Traini et al. (US 4,230,542).

With respect to the independent claim 17, Traini discloses a solution composition comprising 85.6 g/l of tetravalent titanium and ferric and ferrous ions ("the second metal ions") (col. 8, lines 30-40). Since the presence of the tetravalent titanium in the solution stabilizes the solution against reduction and deposition of the second metal ions, see pages 22-24 of the specification of the present application, the solution of Traini comprising the same tetravalent titanium ions can also have the same function of stabilizing the solution against reduction and deposition of the second metal ions as claimed.

The recitation of "plating bath precursor" does not provide a patentable distinction on the claimed composition, it merely indicates the intended use of the composition.

With respect to claim 15, Traini discloses the second metal ion is the iron ion.

With respect to claim 16, Traini discloses the amount of tetravalent titanium ions is 85.6g/l. Accordingly, the concentration of tetravalent titanium ions is about 1.79 mol/liter

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(molecular weight of titanium is 47.9g/mol, $85.6/47.9=1.79$ mol/liter). The concentration range of tetravalent titanium ions is within the claimed range of at least 0.001 mole/liter.

Traini meets all the limitations of claims 15-17.

Response to Arguments

4. Applicant's arguments with respect to claims 15-17 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling X. Xu whose telephone number is 571-272-1546. The examiner can normally be reached on 8:00 - 4:30 Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah D. Jones can be reached on 571-272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ling X. Xu
Examiner
Art Unit 1775

LX
lx


DEBORAH JONES
SUPERVISOR, PATENT EXAMINER